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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

1924

REPORT FOR WEEK ENDING SEPTEMBER 6, 1924.

HAVRE:

Temperatures, both minimum and maximum, fluctuated greatly during the week. The minimum was 38 on September 1, and the maximum 91 on the 5th.

All crops are making slow growth due in part to the short days. Corn has been rolling during the day but has revived at night. By close selection we may get sufficient Northwestern Dent corn for seed, but it is hardly probable that the grain will mature. Some of the early varieties may fill sufficiently for mature corn.

Threshing for small grains was completed during the week. Some of the flax was harvested and all this remains to be threshed.

The following table gives the average yields of wheat and barley for four different cultural treatments:-

	Yields in bushels per acre.	
Cultural Treatment	Wheat	Barley
Fallow	12.4	16.1
Disked corn land	9.3	10.7
Spring plowing	8.9	10.1
Fall plowing	7.3	6.1

As the land is too dry, fall plowing has not yet been done.

HUNTLEY:

Fall plowing has continued throughout the week. Because of the extremely dry condition of the soil the work has been slow and difficult. Seedbeds reduced from the plowed ground are very lumpy and unsatisfactory.

An abrupt drop in temperature to 33 on the evening of August 31 was responsible for the frosting of crops in low spots throughout the community. On the Dry-Land project beans, potatoes, curcubits, and some of the corn plats show frost injury. Most of these crops were far enough along so that the killing of the plants will not materially affect yields. While corn is not yet mature, most of it is well dented and colored and should make a fair quality of grain in spite of an early frost.

Maximum temperature 93, minimum 33; precipitation .07 inch.

SHERIDAN:

The station work for the past week has consisted principally in miscellaneous work of different kinds, cleaning grain, etc. Three varieties of beans and one variety of cowpeas are being pulled, and Sudan grass and sorgo on the north side of the station on light land are being harvested.

Sheridan, continued:

The weather has been somewhat cooler than the week before, but still continues dry. Corn and the late forage crops still hold up fairly well, although the effects of the continued dry weather are becoming more evident. There is some ripe corn now in the rotation plats, and it seems probable that there may be some fair yields of grain on some of the plats providing frost holds off for a sufficient length of time. There was a light frost in places on the morning of September 1, but no vegetation was injured on the station.

Maximum temperature 90, minimum 34; precipitation, Trace.

MANDAN:

Agronomy.

The past week has been exceptionally favorable for threshing. A light shower this morning delayed threshing for a few hours.

Wheat, barley, oats, winter rye and winter wheat were finished at the end of last week. The second cutting of alfalfa was hauled in this week, and threshing for the Office of Cereal Investigations has been in progress. The second cutting of alfalfa was light, but the hay was of very good quality.

The average yield of wheat, per acre, in the main field was 20.6 bushels, and 11.5 bushels in the south field. The average for both fields was 18.9 bushels per acre. The lowest yield of wheat was 7.7, on plat B in the south field, while the highest was 36.0 on plat L, in the main field, in the Methods of Fallow.

The average yield of oats was 55.2 bushels in the main field, and 29.0 bushels in the south field. The average of both fields was 49.6 bushels. The highest yield of oats was 80.6 bushels, on fallow, in the main field.

The best yield of barley was 48.9 bushels per acre on fallow in the main field. The average for the main field was 32.4, and 12.9 in the south field.

Winter wheat drilled in stubble yielded 23.3 bushels per acre. This is the highest yield of winter wheat ever made on the station.

Winter rye made 33.4 bushels per acre on fallow, and 24.7 bushels on disked corn.

Corn made good progress during the past week, and is ripening rapidly. Another ten days without frost will assure a good crop on the station.

Maximum temperature 89, minimum 42; precipitation .04 inch.

Mandan, continued:

Cooperative Grazing Experiment.

The gains of the cattle in the various pastures for the month of August were very good. The following gains in pounds per head were made during the month:-

	August gain	Gain to Sept. 1.
100-acre	66.5	301
70-acre	58.0	283
50-acre	65.5	289.5
30-acre	56.0	267
Rotation (70 acre)	54.7	256
Brome (35 acre)	27.9	25[illegible]

Each pasture carries ten head of 2-year old steers except the rotation, which carries 16 head and the brome which carries 14 head.

The grass in the smaller pastures is getting short, and the chances are that the cattle will lose weight during September.

Horticulture.

The hot, dry weather the past week has hastened the maturing of both fruits and vegetables. The fruit crop is decidedly light this year, owing to the severe frost of May 25. There is also considerable dropping of fruit, half matured.

Varieties of plums now ripe are:- Oziya, Opata, Sapa and Tom Thumb cherry plums.

Raspberries are still yielding, varieties Ohta and King showing up unusually well.

Vegetables from the Acre garden now include Tomatoes, Cucumbers, Sweet corn, Peppers, Summer squash, Cabbage and Cauliflower, and most of the root crops. All are of good quality.

Tomatoes in the breeding plat are now at their best, and selections are being made daily.

Visitors of the week included Frederick D. Richey, Office of Cereal Investigations; R. S. Zimmerman, Bureau of Biological Survey; George Mayoue, Associate Pathologist, U. S. D. A., Barberry Eradication, and Senator Frazier.

J. M. Stephens left t day on an inspection trip to several of the stations in the Northern District.

Mandan, continued:

Arboriculture.

Shelterbelt inspectors have been busy the past week checking over the season's inspection sheets. Mr. Emerson and Mr. Hansen plan to leave the first part of next week to resume their studies at the School of Mines, Rapid City, South Dakota.

A preliminary estimate of the trees needed for the 1925 plantings shows a total of 130,000 trees of all species required. Field counts in the shelterbelt nursery indicate that we have slightly more than this number of trees on hand.

Caragana seed was threshed and cleaned, giving a total of 118 pounds.

ARDMORE:

The weather continues dry and hot with no relief from the long continued drought.

Many farmers are in a very bad condition due to the shortage of feed and water. Nearly every man in the country has heavy financial obligations which cannot be met under present conditions.

For the first time in the history of the station Hat Creek is practically dry. This is the creek that the station depends upon for water for both house and stock use. The water is very poor and almost undrinkable.

Beef cattle used in the grazing experiment were weighed on August 29. The average gains per steer per month are shown in the following table:-

	150-acre Pasture	80-acre Pasture	Rotation Pasture.
May (10 days)	-11.8	-20.5	-10.0
June	103.0	100.0	74.8
July	43.5	17.0	-24.8
August	28.0	-13.5	02.5
100 Day Gain	107.7	33.0	90.5

The steers on the rotation pasture were given fresh pasture on August 1 which accounts for the gains made by this lot during the last month.

ARCHER:

The weather continues dry. This feature has aided in the putting up of silage and the threshing of increase fields of small cereals. All the sunflowers and corn in the general field have been cut and practically all in the silo. The yields were rather light; however, there was a good development of ears on the corn. While the exact yields of these crops have not been calculated it appears that the sunflowers have produced the usual increase yield over corn.

Maximum temperature 92, minimum 41; precipitation .01 inch.

NORTH PLATTE:

Dry weather continues without variation. No general rains have occurred during the summer. Some localities have been fortunate in securing local showers. In other localities injury from drought has been severe. On the station conditions have been about average. Normal rainfall for the eight months to August is 15.36 inches. For this year it was 8.69 inches at the North Platte Weather Bureau and 11.22 inches and 11.19 inches at the Station Bench and Table gauges, respectively. All months of the year to date, except March, have had less than normal rainfall.

Silo filling was begun yesterday. The soil is very dry for the preparation of winter wheat seed beds, and this work will be delayed for another week or so in the hope of securing better conditions.

Seed alfalfa and Sudan grass were cut during the week.

HAYS:

The weather continues dry with changeable temperatures with extremes of 101 and 53 degrees. On a few occasions the wind has been heavy.

The work has consisted largely in soil sampling, counting of stands and tillage work. The work on the commercial fields has consisted largely in working down listed ground for seeding of winter wheat and filling of silos. The latter was commenced Friday, the 5th.

Feed crops continue to develope slowly.

GARDEN CITY:

Little change in weather conditions has taken place during the past week. This section of the state is in need of moisture, both to mature the sorghum crops and to help put the wheat seed bed in shape for planting. The total precipitation received since January 1 is 9.87 inches as compared with the normal rainfall of 14.08 inches. Notwithstanding the small amount of moisture received, crops are looking better than might be expected. Row crops that have been well taken care of throughout the summer will make a fair yield if no more rain is received before harvest.

Field work this week has consisted of curling in the listed plats that are to be seeded this fall, disking roadways, cutting head smut out of Red Amber plats, harvesting cowpeas, and roguing all kafir plats.

The ten plats of cowpeas that have been weighed made an average yield of 2002 pounds of hay to the acre. The hay this year is of very good quality.

Maximum temperature 101, minimum 45; precipitation 0.

DALHART:

The past week has been quite favorable for crops. The temperature has been high enough to aid the growing crops. The wind movement has been moderate. One precipitation was recorded during the week which netted .19 inch. This was of a rather local nature but helped some, nevertheless.

The fields have been too wet to work for a part of the week from last week's rain. Thursday was the first day that would permit field work. On that date the fallows were all cultivated with the field cultivator. This made a killing of the young weed and grass growth that had started since the recent rains. Soil samples were taken on Thursday of this week. They were omitted last week on account of rain.

Some of the variety cowpeas were harvested this week. They have been mature for several days but the plats were too wet to work on until this week. The peas were picked for the seed yield and the whole vines harvested, including pods for the hay yield. The mower has been in operation for the past two days cutting grassburs from the roadways. During the wet spell considerable hoeing has been resorted to in an effort to keep the bufallo-bur under control. This is a pest over this whole section and is trying to get a foothold here. To date the operations have been quite successful in combating them. They have not as yet gained a hold here on the station. Wherever one is found it is immediately pulled out. Where seed has set on them the plants are burned.

Mr. E. F. Chilcott was a station visitor this week. Good weather prevailed during his stay here.

Maximum temperature 91, minimum 52; precipitation .19 inch.

Hot winds were in evidence on Thursday of this week.

TUCUMCARI:

Crop growth has been rapid the past week but, due to the abundance of moisture and the cool evenings, there is danger that crops will in some cases not fully mature. Last year heavy fall rains and cool temperatures brought about this condition, many plants continuing vegetative growth until frost. Milo is maturing much more rapidly than kafir and the majority of milo plats will be ready for harvest within two weeks. Cotton is 18" to 30" high and is heavily fruited, although there are comparatively few bolls formed. Broomcorn was pulled during the week and will apparently make fair yields. The quality is excellent except on the late dates, where drought followed by heavy rains caused much valueless brush to form.

During the week cowpeas were picked, cut and shocked; much of the Sudan cut and shocked; green manure plats, Sudan and cowpeas, plowed under; several plats of broomcorn pulled and plant counting carried on.

Tucumcari, continued:

Broomcorn is yielding well, south of Tucumcari, and the growers are as enthused over the prospects as the wheat farmers are. The latter are preparing ground for another wheat crop, with indications that the small grain acreage in this section will be the highest in many years.

Maximum temperature 92, minimum 59; precipitation .74 inch.
Evaporation 1.715 inches. Wind velocity 3.1 miles per hour.

BIG SPRING:

Crop conditions have improved considerably around here since the rains of last week. Forage crops, which were burning badly, are now making a good growth with the result that a very good crop is going to be produced. Milo was too far gone to receive much benefit from the rains, but cotton is showing a marked improvement; many bolls which were opening prematurely are now making a good growth.

The first and second dates of cotton were picked this week, and the early dates of milo, kafir, and feterita were harvested. The feterita and some of the early varieties of forage sorghums in the variety tests were also harvested. Other work of the week has been picking cowpea seed and hoeing weeds.

Maximum temperature 92, minimum 60; precipitation 0.

LAWTON:

Throughout the week the maximum temperatures have been about normal but the minimum temperatures have been low. No rain has fallen and the surface moisture is well exhausted. With the exception of the unusually cool nights the weather has been favorable to the maturity of cotton. Early planted cotton is opening with considerable rapidity and picking will be pretty generally started during the coming week. Gins throughout the county are ready for operation--simply waiting for the season's rush to get under way.

A good deal of the up-land cotton will give only a fair yield. On the bottom land the crop is usually heavy. The crop as a whole throughout the county will probably be the best that has been produced since 1920.

A second invasion of worms into the cotton from the alfalfa fields was successfully combated during the week. Some damage was done to adjoining plats before the worms were fully checked.

In the creek bottom fields of cotton, where the plant growth is rank, there are a good many boll worms. These worms live within the well developed bolls and cause them to rot.

Lawton, continued:

Sorghum harvest is pretty well completed with the exception of June plantings. The yields of grain sorghums are in most cases pretty good. Grain production on several of the forage sorghums is very light but the stover yield will be above the average. Bird damage to grain sorghums has been almost completely controlled this year. The most persistent effort has been required and the work has been expensive.

Maximum temperature 94, minimum 55. The wind velocity was unusually low ranging from 1.3 to 6 miles per hour.

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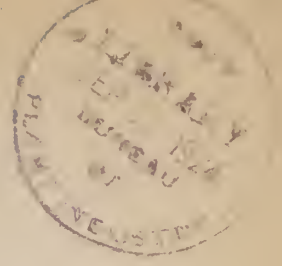

WEEKLY STATION REPORTS

OF THE OFFICE OF

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING SEPTEMBER 13, 1924.

HAVRE:

The minimum for the night of September 12 was 33 with a heavy white frost. The ends of the tender vines show slight injury but not noticeable on corn.

Some of the blocks of corn were harvested as well as one commercial field of corn for silage. The silo will be filled the coming week.

Plowing for winter rye and wheat was completed. The ground on many plats was quite dry. Some fall seeding will be done the coming week.

With the exception of few miscellaneous plats, all trneshing is complete. Commercial fields under irrigation are yet to be threshed.

JUDITH BASIN:

The past week has been quite cold with cloudy threatening weather prevailing most of the time. The first frost this fall occurred on September 10 but no injury was done to any of the crops.

Field work has been devoted almost entirely to threshing operations. With the exception of two reseeded plats of spring wheat which are not ripe yet, threshing of all crops on the rotations has been completed. Aside from an acre field of flax, which is not quite ripe, and a few patches of crested wheat grass, all increase fields have been threshed. Threshing of winter wheat and fall seeding on the Cereal Project have also been completed.

Mr. J. H. Martin, of the Office of Cereal Investigations, visited the station during the fore part of the week.

Maximum temperature 67, minimum 32; precipitation .18 inch.

HUNTLEY:

Cool weather verging on frost has been experienced during the past week. Corn is maturing slowly, the crop being unusually green and backward for this time of year. Some seed corn has been gathered but the work is slow due to the scarcity of mature ears.

Fall plowing of pasture and miscellaneous plats, seeding of winter wheat and rye and bean harvesting have been the principal lines of field work engaged in during the week.

Maximum temperature 37, minimum 33; precipitation .07 inch.

DICKINSON:

The weather has been cool and dry during September and threshing has made steady progress. On farms the yields are better than estimated before threshing started. Some of the better fields of wheat are making over 20 bushels and oats over 50 bushels.

Rotation plats were threshed September 3 and 4. Wheat on all plats averaged 21.5 bushels and on the main field 21.7 bushels. During the past 18 years wheat on the main field has averaged 19.3 bushels per acre.

Land fallowed with the duckfoot yielded as well as ordinary plowed fallow. The yields are given of Nodak and Marquis varieties of wheat on the method of cropping series on the main field and normal field.

Method	Nodak (durum)		Marquis (common)
	Main Field	School Field	School Field
Spring plowed	18.0	22.0	24.0
Fall Plowed	15.3	18.3	18.7
Fallow (plowed)	27.0	25.8	32.5
Fallow (duckfoot)	----	25.7	34.0

Oats on the main field averaged 61.1 bushels and on the Normal field 52.2 bushels. Barley averaged 30 bushels.

The frost on the morning of September 1 killed the leaves of corn and other tender plants on low ground. The ears of corn are still developing slowly and the earliest are beginning to dent. It seems unlikely that much mature corn will be secured.

Messrs. J. M. Stephens, J. T. Sarvis, F. D. Richey and J. H. Martin were recent visitors.

Maximum temperature 83, minimum 36; precipitation .14 inch.

MANDAN:

Agronomy.

The past week has been cool and cloudy on several days, with some rain which delayed threshing.

A rain of .80 inch on the evening of the ninth put the ground in good condition for fall plowing, which was started on the tenth. Fall plowing in the Main Field will be practically completed today.

Ten acres of sorghum for feed is being harvested today.

Mandan, continued:

The small silo was filled early in the week. The yield of silage was about 5.5 tons per acre.

Northwestern dent corn is practically mature, and harvesting of the plats will start as soon as possible. Picking of seed corn from the seed blocks will be completed today.

No frost has occurred here to date, but the nights are cool; and frost may be expected soon.
Maximum temperature 74, minimum 43; precipitation .36 inch.

Cooperative Grazing Experiment.

The brome grass pasture is getting very short. It was renewed somewhat by the rains in August, but most of the growth was grazed down. The rains of the past week will, no doubt, be of benefit to it.

The cattle are still on the 30-acre pasture, and the indications are that the pasture will carry them longer this year than during any other year since 1916.

ARCHER:

The long dry spell has at last broken. The total precipitation of the storm was 1.74 inches and lasted over a period of four days. This is sufficient moisture to put the ground in good shape for the seeding of small cereals.

The varieties of winter wheat have been seeded and preparations are being made to seed about 40 acres of winter wheat, 34 acres of which is intended as forage for the dairy herd.

The varieties of barley and practically all the varieties of oats were threshed before the storm.

Mr. J. M. Stephens visited the station September 13.
Maximum temperature 81, minimum 36; precipitation 1.74 inches.

COLBY:

Weather conditions the past few weeks have been quite adverse to the development of a great many of the sorghums. During the last two weeks of August .72 inch of rain fell in four showers. This was not sufficient to prevent suffering from drought except on summer tilled ground. Those sorghums that were headed before the dry weather began to effect them were not so severely damaged as were those that had not headed or were just heading. This last week 1.28 inches of water fell in the space of about 18 hours so that there should not be much, if any, suffering from lack of moisture. Since September 1 the nights have been cool and a great many of the days have been cool also. This has checked maturity of the corn. Most of the corn on the station is far enough advanced now so that a light frost would not hurt it.

Colby, continued:

The lowest temperature so far recorded this fall was recorded this week, which was 42 degrees. Milo is well seeded on surface planted, while the listed milo is fully a week later. Kafir on MCA & B is dried up very badly. The field of Early Sumac for feed is promising a good yield at the present time. It has been fully headed about three weeks at the present time. The September 1 date of seeding winter wheat is up to a thick stand.

Work during the week has consisted in hoeing a few weeds which were missed in the summer tilled plats, finishing the new concrete water tank, grinding feed, weighing and storing seed, general clean-up work, counting final stands of corn and sorghums on the D.L.A., counting corn and smut infestation on the corn varieties, and counting smut infestation on the corn-smut nursery.

One of the best crops of crab apples ever harvested on the station has been marketed. Other apples are promising a good yield though a great many have fallen off before maturity.

All fields which were in small grain this past summer have been double disked at least once this fall. Stubble fields for the most part are quite free from weeds. The continuous stubbled-in winter wheat plats is the weediest area which we have on the station. All winter wheat plats have been given their final cultivation previous to seeding.

HAYS:

Generally the weather has been cool and dry with the exception of one day early in the week when the temperature reached 101. The minimum for the week was 43. Three sprinkles on as many different days were recorded but all together made a total of only .15 inch.

During the week the corn on the plats was harvested, also cane on rotation 58 was cut. All drainage ditches were opened.

The work on the general farm consists largely of cutting feed and filling silos. Also some work is being done on the wheat fields.

GARDEN CITY:

The past week has been rather cool for this time of year. Rains have threatened on several occasions, but only two light showers were received. The total precipitation for the year up to September 1 was 9.37 inches as compared with a normal rainfall for that period of 14.08 inches.

Field work this week has consisted of cutting the corn on the Dry Land Project, cutting the first two dates of planting of Dwarf Yellow milo, Feterita, and Red Amber, and planting the third date of winter wheat.

Maximum temperature 98, minimum 39; precipitation .30 inch.

DALHART:

Fall weather is rapidly approaching this section. The temperature has dropped considerably this week over previous weeks. Minimum temperature recorded during this week is 40 as compared with 52 last week. Conditions seem to be pointing to an early frost. Plenty of warm weather is needed for three weeks yet to get the grain to ripening in good shape.

Considerable harvesting was done during this week. All of the rotation cowpeas were harvested together with six of the variety cowpeas. The varieties harvested at this time were for hay only. An exceptionally high yield will be obtained from most of the peas in the variety test. Other harvesting consisted of the pulling of broom corn brush from the third date of planting and the binding of the first three dates of broom corn, first four dates of feterita 182 and dwarf milo. Winter rye plats were prepared for planting and all plats planted to rye during the week. Conditions are quite favorable for a good stand of rye this fall.

Mr. H. N. Vinall visited the station on the 12th. He left on the early morning train for other points for inspection.

TUCUMCARI:

Work the past week has progressed rapidly, with no rain to delay harvesting. Most cowpeas have been cut and cocked, while some were hauled; most of the increase Sudan grass hauled; about thirty plats of rotation milo and early date plats cut and shocked; the second pulling of broomcorn pulled and seeded; MCA wheat and rye plats plowed and all wheat and rye plats spring-tooth harrowed and seeded. Cowpea seed was threshed and cleaned, while counting of plants was continued.

Ranges are in excellent condition, cattle are looking well, and wheat farmers are rapidly seeding land. Sorghums are ripening normally fast, with indications of a fair crop or better except on field where planting was late. Late fields of grain sorghums may not mature, while farmers who planted cotton are beginning to fear their crop may not open. A minimum of 45 degrees temperature one night the past week lends weight to the fear of an early frost.

Maximum temperature 91, minimum 45; precipitation 0.
Evaporation 2.199 inches. Wind velocity, 4.9 miles per hour.

WOODWARD:

We have had one or two days of hot windy weather but received .05 inch of precipitation and the weather has been cool since then. All of the roads in the experimental project, the orchard, vineyard, and windbreaks have been planted to wheat to keep the soil from blowing. Most of the fruit has been picked although there are a few peaches and grapes left. The new silo is under construction at present and preparations are being made to start filling the old one. A Farmers' Picnic was held at the station on the 6th and there were about 125 people in attendance.

Maximum temperature 96, minimum 46; precipitation .05 inch.
Average wind velocity 6.5 miles per hour. Evaporation 2.121 inches.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP 3 0 1924

REPORT FOR WEEK ENDING SEPTEMBER 20, 1924.
(Unless otherwise indicated.)

HAVRE:

While the temperature dropped to 33 degrees the night of the 19th, there has been no killing frost.

Light showers occurred during the week, totaling .07 inch. The soil is yet very dry for plowing or for seeding winter grain.

Threshing operations are progressing rapidly in the community. By far the heaviest yields are from fallow land.

Seed corn was gathered during the week, the most of which is in hard dough stage. Dakota White and Gehu flint are maturing with but small prospects for the later varieties.

JUDITH BASIN:

The past week has been characterized by moderately warm days and cool nights. The first killing frost was received on September 20, when a minimum temperature of 23 was recorded.

Field work on the rotations has been devoted to disking stubble, fall plowing, seeding winter wheat and harvesting corn. Threshing of all varietal plats on the Cereal Project, except flax, has been completed. An acre increase field of flax and all other small grains on the station were harvested.

Professor F. M. Harrington, of the Montana Experiment Station, visited the station on the 14th and 15th.

Maximum temperature 80, minimum 23; precipitation .21 inch.

HUNTLEY:

The warm weather of the first half of the week has been followed by cold and wind with enough precipitation to keep the sky cloudy and the air chilly. Some fall plowing was accomplished during the week and a beginning was made on the corn harvesting. Mature beans in the variety and cultural tests were pulled and a small supply of seed corn was gathered.

Mr. J. M. Stephens visited the station on the 16th.

Maximum temperature 90, minimum 31; precipitation .08 inch.

SHERIDAN:

A heavy frost on the morning of the 13th made it necessary to harvest all corn and sorgo immediately. Harvesting of these crops was completed the middle of the week. Drying of the leaves caused some loss with that left the longest, but the rotation field was completed with little loss of the forage. Some shocking remains yet to be done.

Sheridan, continued:

The greater part of the earlier varieties of corn was fairly mature. A good supply of seed was picked during the week of September 13. Plowing of the rotations was begun the same week. All plowing for winter wheat except the plat to be subsoiled was completed. The plow could be kept in the ground on only a few of the other plats, however, and plowing of this field was abandoned temporarily. The land intended for next year's forage work plows fairly well and plowing was continued there. Rains during the last two days may allow plowing to be resumed on the rotations now.

Mr. J. M. Stephens visited the station on the 15th.
Maximum temperature 86, minimum 30; precipitation .73 inch.

MANDAN:

Agronomy.

The past week has been favorable for field work. On two days the wind blew very hard, but did not interfere much with the work.

Practically all threshing on the station has been completed, except the flax in the rotations.

Sorghum varieties for the Office of Forage Crop Investigations have been harvested. The corn varieties in the silage test are being cut today.

Fall plowing was completed during the week. The ground was in good condition for plowing, and the soil turned up in good shape.

There has been no frost to date, and corn is now ready to harvest. This will be done as soon as possible.

Winter wheat and winter rye were seeded in the rotations on the 18th. This is a little later than the usual date of seeding.
Maximum temperature 74, minimum 36; precipitation .02 inch.

Cooperative Grazing Experiment.

The steers are still on the 30-acre pasture, and have not lost any weight so far this month.

Arboriculture.

Forty-six pounds of seed of Tartarian maple, and forty pounds of Chokecherry seed, were gathered from the station plantings this past week.

Mandan, continued:

Arrangements have been made to procure Ash and Box-elder seed in the Antelope Lake district, northwest of Harvey, North Dakota. The quality and supply of Box-elder is excellent, while the Ash crop is only fair.

Horticulture.

Compass cherries, Zumbra cherries and several varieties of plums were picked during the week. The cherries make a very good sauce. A few crab-apples were also picked, but the yield was very light this year, due to the heavy frost at blossom time.

The tomato breeding work for the season has been almost completed. Yields from all of the 1923 selections have been taken this year. The yields were very good on the whole, although the fruit was somewhat smaller than in previous years. Also there was considerable damage from sunscald. A number of strains were discarded, and more selections among the more promising ones were made.

Owing to the late season considerable vegetables remain to be harvested from the acre garden. Some yields will be obtained from nearly all, the exceptions being squashes and melons, which are still immature.

Hydrangeas, Tamarix, and roses (both Hybrid Perpetuals, and Rugosa hybrids) are now in full bloom. The two first named are excellent ornamental subjects, and should be employed more in landscape work.

Cultivation and hoeing in the fields have been finished for the year.

BELLE FOURCHE:

All corn on fall plowing is now ripe enough to be out of danger from frost. That on spring plowing is not so far along but most of it is well dented. A few plats of corn were cut on the 19th but rainy weather for the rest of the week prevented further cutting. All of the sorghum plats were cut the morning of the 19th.

The plats to be seeded to winter wheat have been worked down into fair condition, but none of them have enough moisture present in the surface soil to germinate wheat. The cleanness of the winter wheat stubble is remarkable. In some of the plats not a single weed has come up since harvest. None of them are weedy.

A fairly heavy frost occurred last night, but present indications are that it was not generally killing. The temperature was only 33 degrees.
Maximum temperature 80, minimum 33; precipitation .18 inch.

NORTH PLATTE:

In contrast to the bright dry weather which has prevailed during the greater part of the summer, the past ten days have been decidedly humid. On the table 1.72 inches of rain fell in a slow drizzle from the 11th to 14th. The seven days since that time have been continuously cloudy, with considerable fog and occasional light showers.

Field work has progressed intermittently. Silo filling was finished September 15. With the exception of five plats, which are still quite green, corn on the rotation plats was cut and shocked September 15 to 17. Preparations for seeding winter wheat are about completed and with favorable weather most of the seeding will be done the coming week.

HAYS:

The weather during the week has been cool nights and generally cool days. A total of .01 inch rainfall was recorded for the week.

Sorghums are in all stages, some have been but and some are only about 50 per cent mautre; however, most of the sorghums will be mature in ten days.

The work has been largely making ensilage and getting ready for seeding of wheat.

GARDEN CITY:

Cloudy weather has prevailed throughout most of the past week. Three showers netting 1.37 inches of precipitation were received. While this moisture was too late to be of much benefit to the growing crops it will aid in the preparation of a seed bed for winter wheat.

The sorghums are ripening rapidly now and most of the dry land milo will be ready to harvest this week.

The annual Field Day and Picnic was held on Friday, but the attendance was poor on account of the rain the night before. The program consisted of short talks by President W. M. Jardine, Director F. D. Farrell, Mr. A. B. Carney, Chairman of the State Board of Administration, and Mr. James Linn, Dairy Specialist. A tour of inspection of the projects was made after the program. There were about two hundred in attendance.

Mr. E. F. Chilcott was a station visitor Friday and Saturday.
Maximum temperature 34, minimum 45; precipitation 1.37 inches.

DALHART:

The past week has been cold for the most part. Considerable cloudy weather has prevailed, which helped to keep the atmosphere cool. A good rain was recorded during the week, which netted 1.53 inches. This rain started about 7:50 p.m. Tuesday and lasted nearly all night. On the morning of the 17th, 1.50 inches was measured at 7:30, then during the day .03 inch was recorded. This .03 inch was spread over the entire day with small showers lasting only a short time. This rain was not needed for the row crops but came in handy for the fall planted wheat. Wheat planting was renewed after the rain.

The fields have been too wet for the use of implements since Tuesday. Two full days field work was accomplished this week and the remainder of the time was spent fixing fence and doing other odd jobs.

Several plats of forage sorghum were harvested Monday and shocked later in the week. No other harvesting was done this week. Manure was cleaned up around the horse lot and spread in the vineyard and orchard. This was put on as a top dressing and will make a good cover for protection against soil blowing. Winter barley was planted in between the grape rows for added protection as wind break strips. This was also done in the orchard. Soil samples were omitted on the regular sampling day this week but were taken two days later.

The rain this week did not help cotton in the least. It was not a great help to the row crops since they were not needing moisture and are trying to ripen. This rain and cool weather is retarding the ripening of all grains. The row crops are from one week to ten days behind this year in maturing. One cause for this is the second growth and heading of suckers, which made a quick growth after the August rains, making a double crop of heads. It is hard to make an estimate at this time on the possible outcome of the cotton crop. Cotton is looking pretty favorable just now but the date of the first killing frost will tell the story. Considerable warm weather is needed yet to mature it in good shape. This also holds true for the row crops.

From the beginning of the fall weather it is doubtful if some of the crops will mature grain. Winter rye is coming up on all plats to a good stand. This rain aided greatly in bringing the rye up on the plats that were cropped to cowpeas this year. The rye was planted on these plats just two days after the cowpeas were removed, and the soil was pretty dry in each case. Rye on early fall plowing and fallow on C.C. methods came up several days ago.

TUCUMCARI:

Plant and stalk counts were completed during the week, cowpeas hauled, broadcast cane cut and shocked, and odd jobs completed so nothing would delay harvest when crops mature sufficiently.

Tucumcari, continued:

Rain of .57 inch the past week, quite general over the county, aided greatly in germinating small grain, wheat and rye plats on the station showing a stand six days after seeding. As a result of the favorable weather conditions, wheat farmers have been able to prepare and seed land unusually early this year and at the present time more small grain acreage has been sown than on this date in several years. Row crops, viewed in a trip covering a large portion of the county, as a rule are unusually late, with prospects that much kafir will not mature.

Mr. J. S. Townsend, cotton ginning specialist with the Crop Acclimatization Office, spent two days at the station this week enroute from Washington to his headquarters in California. Mr. J. S. Horton, in charge of the U. S. Entomological Laboratory, Wichita, Kansas, visited the station while enroute to Wichita with his family after a 2000 mile auto trip through southwestern Colorado and the northern half of New Mexico.

Maximum temperature 89, minimum 45; precipitation .57 inch.
Evaporation 1.630 inches. Wind velocity 4.4 miles per hour.

BIG SPRING: Week ending September 13, 1924.

A slow drizzling rain during the past two days has netted .60 inch of moisture. This shower will help the late feed somewhat but it will not be of much value to milo and cotton.

Cotton picking in this vicinity is getting started in pretty good shape; it is estimated that this county will produce over 20,000 bales. While While the yield will be considerably lower than that of last yest the increase in the number of acres will more than compensate for the low yields. A cotton compress is being erected at Big Spring on the strength of this year's crop.

Station work this week has consisted mainly of picking cotton, selecting seed, and harvesting cowpeas.

Maximum temperature 95, minimum 54; precipitation .60 inch.

BIG SPRING:

During the past few days the weather has warmed up considerably and with this change the cotton has started to open very rapidly. The cotton plants have put on a large amount of new growth since the rains; this condition makes picking rather slow as the open bolls are hidden among the green leaves.

Most of the time during the past week has been spent in picking cotton, harvesting variety sorghums, and in seeding orchard and roadways to winter wheat. It is hoped that the seeding of winter wheat in the orchard and roadways will help to control sand blowing next spring.

Maximum temperature 95, minimum 54; precipitation 0.

ARDMORE:

There has been no rain of any consequence during the month of September. The ground is very hard and dry and fall plowing is being done with great difficulty. Fall plowing of rotation plats has been completed, and the plowing for field crops is now under way. It is very expensive to do plowing under present conditions, but large fields cannot be properly prepared in the spring in time for early seeding or planting unless the plowing is done in the fall.

Rotations plats of winter wheat and barley have been seeded, but the ground is so dry the seed will not germinate until there is a rain.

Pastures used for the grazing experiment are very short, and the cattle in the 80-acre pasture have very little feed.

Winter feed will be very short throughout this section, and most farmers and ranchers have shipped their cattle.

Maximum temperature 83, minimum 37; precipitation .09 inch.

LAWTON:

With the exception of three or four days the weather has been cool during the last two weeks. During this period three small showers totaled .50 inch. Temperatures ranged from 55 to 98, while the wind velocity varied from 1.1 to 9.3 miles per hour.

Although the weather is a little cool cotton is reaching maturity in excellent shape. The bolls have opened very rapidly within the last ten days and the crop is going to market as fast as possible. An acute demand for pickers exists throughout the southwestern part of the state.

The first picking on the station was completed on the 20th. Yields of 150 to 350 lbs. of seed cotton per acre were obtained and probably that much or more remains for the second and third pickings.

WOODWARD:

Most of the work during the past week has consisted of harvesting, and preparing D.L.A. plats for seeding of wheat and rye, which we did not get seeded on account of rain. An exhibit consisting of sorghums and grapes was put up at the county fair. One day was so wet that no outside work could be done and the time was spent on machinery repairs.

Mr. E. F. Chilcott left Thursday morning to visit the Garden City Station.

Maximum temperature 87, minimum 52; precipitation 2.57 inches.
Evaporation 1.150 inches. Average wind velocity 4.5 miles per hour.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP 27 1924

REPORT FOR WEEK ENDING SEPTEMBER 27, 1924.

HAVRE:

Favorable growing conditions during the fore part of the week were followed by colder weather, light precipitation, and a minimum temperature of 27 degrees on Saturday. This was the first general freeze and killing frost of the season.

Harvesting of late planted commercial fields of oats and corn was completed. Several strains of Gehu and Dakota White flint corn in the variety tests were sufficiently matured to harvest.

Northwestern Dent corn in the rotation field made good progress early in the week. A small supply of fairly ripe seed was obtained before the freeze.

Maximum temperature 35, minimum 27; precipitation .22 inch.

JUDITH BASIN:

The past week has been quite cool and stormy. Snow was received during the greater portion of three days and the temperature dropped down to a minimum of 20 on the 26th. The snow has all disappeared at the time of the present writing, and the ground is drying up quite rapidly. The total precipitation was .79 inch, and the moisture will be of material benefit to fall wheat as no precipitation of any account has occurred since August 5.

Field work has consisted of seeding rye and plowing on the rotations, cutting a 10 acre field of corn, harvesting corn on the Cereal and Forage Crop projects, and threshing crested wheat grass. Several days were also devoted to threshing of the Cereal nursery, and grinding feed.

Maximum temperature 30, minimum 20; precipitation .79 inch.

HUNTLEY:

Harvesting of corn, sorghums and the late varieties of beans was completed during the week and bean threshing is under way today. The bean crop, while somewhat later than usual, has matured very uniformly this season and the threshed product shows but little tare in the way of green or discolored beans. Yields appear to be a little above the average.

Frosts have been frequent during the week but the first one to do any damage occurred on the morning of the 27th, when a temperature of 23 degrees was reached. This was sufficient to kill most of the garden stuff and potatoes.

Maximum temperature 35, minimum 28; precipitation, Trace.

SHERIDAN:

The remainder of the corn and sorgo was shocked the first of the week. The B and E plats of the MC series and a few other plats of the rotation field were plowed with the tractor. Plowing of a few of the plats was attempted with the horse plow, but with only indifferent success. It seems probable that the remainder of the plats can be plowed about as quickly with the tractor, and a much better job of plowing can be done.

Preparation of plats for fall seeding was completed, and winter wheat, rye, and sweet clover were seeded in the Rotations the 26th. The varieties of winter wheat were seeded at the same time.

Mr. Will L. Wyland, Meteorologist in Charge of the Sheridan Weather Bureau Station, and Mr. George W. Pitman, Meteorologist in Charge of the Wyoming section, visited the station the 20th and inspected the equipment here.

Maximum temperature 36, minimum 28; precipitation .13 inch.

DICKINSON:

The first heavy frost of the season occurred on the morning of September 27, when a temperature of 25 degress was recorded. This killed the leaves of tender crop plants. The leaves of corn were killed but the ears were not injured.

Corn was cut on the Normal field September 22, and on the Main field Septemoer 25. A few bushels of Northwestern Dent and Gehu seed were selected on the 26th. Not much of the grain on Northwestern Dent was far enough along to make good seed. The yield of corn will not be more than a third of last year.

A rain of .49 inch on the 20th was the only precipitation of value during the month. Fall plowing done on the 23d and 24th was rough on most plats. Plats containing alfalfa, sweet clover or brome sod plowed better than grain stubble.

Threshing has all been finished except about a day and a-half in the cereal nursery.

Dean E. S. Keene, School of Engineering, Agricultural College, visited the station September 22, to secure information about the wind electric plant. Other visitors were Stuart Lockwood and R. L. Shotwell, Bureau of Entomology, and Charles Eastgate, County Agent of Amidon, North Dakota.

The rainfall for the six months April to September has amounted to 9.53 inches. The 32-year average for this period is 12.26 inches.

Maximum temperature 89, minimum 25; precipitation for September .66 inch.

MANDAN:

Agronomy.

The past week has been very favorable for field work with the exception of one day of rain.

A light frost came on the night of the 21st, when the temperature went down to 36. Corn leaves were frosted on a few plats in the lower places. On the night of the 26th the temperature went down to 31.

All corn in the rotations was cut the fore part of the week. Corn varieties were cut after the rotations. Corn was practically all mature when harvested, with the exception of some of the later varieties. The yield will be high this year, but as it contains a fairly high percentage of moisture, it will be some time before it is ready to husk.

Flax in the rotations was threshed during the week. Most of the flax will need to be cleaned before final yields can be calculated.

More seed corn is being picked today. Plats that raised corn this year and are fall plowed are being plowed today.
Maximum temperature 36, minimum 31; precipitation 42.

Cooperative Grazing Experiment.

The steers are still on the 30-acre pasture, but are beginning to lose weight. They will, no doubt, need to be removed soon.

Arboriculture.

Two hundred and eighty-six pounds of Russian olive seed have been gathered from station trees during the week.

Leaves are beginning to fall from the larger specimens of Northwest poplar and a few of the Boxelders, but there is no sign of this yet in the nursery.

Horticulture.

Plum picking was continued during the week. In general, most varieties are not yielding as well as last year. There is considerable danger that the late varieties will be damaged by frost this year. Crab-apples are also being picked, but the yields are light.

Cuttings were made of such tender bedding plants as Geraniums and Coleus.

Mandan, continued:

Vine crops, such as eggplant, peppers and tomatoes, were harvested from the acre-garden.

The last picking of tomatoes was made from the breeding plat.

Selfed ears from the sweetcorn breeding plat were gathered. Early ears for next year's seed were also selected.

Dr. H. L. Shantz, Bureau of Plant Industry, with A. E. Aldous, Geological Survey, visited the station on the 21st, and M. L. Sweet, formerly connected with the Office of Dry Land Agriculture, visited on the 22nd.

ARCHER:

The past two weeks have been marked by rather unsettled cool weather. The precipitation, .79 inch, consisted of snow and rain and makes a total thus far in September of 2.53 inches. There have been a couple of light frosts but the first killing frost occurred the night of September 26 with a minimum of 26 degrees.

The last of the corn, part of an increase field, is being cut today. All winter wheat has been seeded and has emerged. The threshing not accomplished will have to wait until the corn and sunflowers have been harvested. The intermittent storms have prevented threshing.

Maximum temperature 81, minimum 26; precipitation .79 inch.

GARDEN CITY:

There has been a wide variation in the temperature during the past week. A maximum temperature of 95 and a minimum of 37 were recorded.

Crops are ripening up rapidly. Most of the dry land milo was harvested yesterday. The dawn kafir will likely be ready for the binder some time next week. Winter wheat was seeded on the 25th. For the most part the seed bed for wheat was in good condition. The rain last week packed the ground to a certain extent, and also made it possible to seed the wheat in moist soil.

Maximum temperature 95, minimum 37; precipitation 0.

DALHART:

The past week has been cool and windy. No precipitation was recorded during the entire week. Climatic conditions, however, have been quite unsettled this week with a decided change to colder weather on Friday night.

Dalhart, continued:

Nothing was harvested during the week in way of experimental crops except one variety of cowpeas (brabham). The cowpeas from all rotations, variety plats and general field were hauled in, weighed and stacked. The maximum yield recorded was with the groit pea which made a yield at the rate of two tons per acre. From all indications the brabham pea will beat this yield considerably. The cowpeas were cured in fine shape and stacked without loss. A little over an acre of cowpeas are being left for seed. Two days of the week were spent in picking seed from this field. The cotton was cultivated this week, going down as deep and as close to the plant roots as was possible without digging it out. This was done so as to disturb the roots in an effort to make the cotton open. Some of the bolls have cracked partially open since cultivating.

The crops are maturing very slowly on account of the unusually early cold weather. It is quite likely that most of the crops will have to be harvested in a rush after the first frost, and then with considerably immature seed. Everything is being left as long as possible in order to get as large a percentage of mature grain as can mature before a killing frost. Some feed stuff was harvested the first of the week and hauled to the stack yard for feeding.

Station visitors during the week are, as follows: Mr. D. R. Burnham of Tucumcari arrived Tuesday evening. Wednesday was spent in going over the station inspecting crops, and in taking in a part of the surrounding country adjacent to Dalhart. Thursday a trip was made to Hartley and Dumas to look over the cotton prospects and inspect a number of fields.

Dr. W. H. Tisdale, Pathologist in Charge of Cereal Smut Investigations, and Prof. L. E. Melchers, Pathologist at Kansas Agricultural College, were station visitors Saturday of this week. The entire day was spent in visiting different fields in the surrounding country inspecting fields of milo, broom corn, etc., in which kernel smut existed. Some very interesting specimens were found to exist in this section.

TUCUMCARI:

Work the past week consisted of cutting and shocking a number of early date plats and variety plats, completing the cowpea harvest, and building and repairing fence.

The lowest temperature recorded to date, Sunday, the 23th, was 34. Tomatoes and peanuts show the effect of frost, although this is not apparent on other crops. While the earliest killing frost on record fell on October 13 it seems probable it will occur earlier this year. Many kafir plats and some milo will require at least three weeks growing weather to fully mature, and in all probability the yields of grain on many rotations, variety, and date plats will be much lower than if warm weather continued to the close of October.

Tucumcari, continued:

On a trip to Dalhart and Amarillo this week the writer was impressed with the lateness of the crops. Some milo fields were mature, while the greater number will require some weeks of growing weather. Very few fields of mature kafir were seen, while much of the kafir will make very low yields of grain, being later than most of the milo. Stops were made at a large number of cotton fields, but not one open boll was seen. Stands on most of the cotton are poor, and, while the plants are well fruited, yields will apparently be low. Although farmers are estimating cotton yields at from one-fourth to one-half bale per acre, no cotton as good as the station plats was seen and it is questionable whether the station plats will yield more than one-fourth bale. A few bolls are opening on the variety plats and with continued dry weather the next month yields may in some instances reach one-third bale.

Maximum temperature 92, minimum 38; precipitation 0.
Evaporation 2.255 inches. Wind velocity 6.1 miles per hour.

BIG SPRING:

Weather conditions have remained warm and dry during the past week with the result that cotton picking is in full swing throughout the county. Although the yield will not be as high as last year, the increased acreage will cause more cotton to be gathered than ever before in the history of the county.

Work during the past week has consisted mainly of harvesting milo plats in the rotations, grain sorghums in the varieties, and in picking cotton. The second cutting of Sudan grass was made in one of the increase fields and milo is being headed in one of the commercial blocks.

Maximum temperature 93, minimum 53; precipitation 0.

WOODWARD:

For three days during the week we have had very severe winds with hardly any let up, even at night.

Wheat and rye on the rotations were planted on the 22nd and these are beginning to show through today, the 27th; luckily they did not begin to emerge until after the severe wind had stopped blowing.

Most of the week has been spent in filling silo. This silo is filled with Sunrise kafir, which was headed before being put in the silo.

A few grapes and peaches were picked. There are a few vines of grapes which have not yet been picked. This is the latest we have ever had grapes since the vineyard begun bearing.

Cowpeas on rotations and variety plats were hauled in and weighed today; the yields have not yet been computed.

Maximum temperature 92, minimum 46; evaporation 1.913 inches.
Average wind velocity 9.4 miles per hour.